

# MERCER

Investment Consulting

December 19, 2003

## Total Fund Review – Third Quarter Board Meeting Arizona State Retirement System

Terry A. Dennison  
Los Angeles



Marsh & McLennan Companies



# Economic Environment

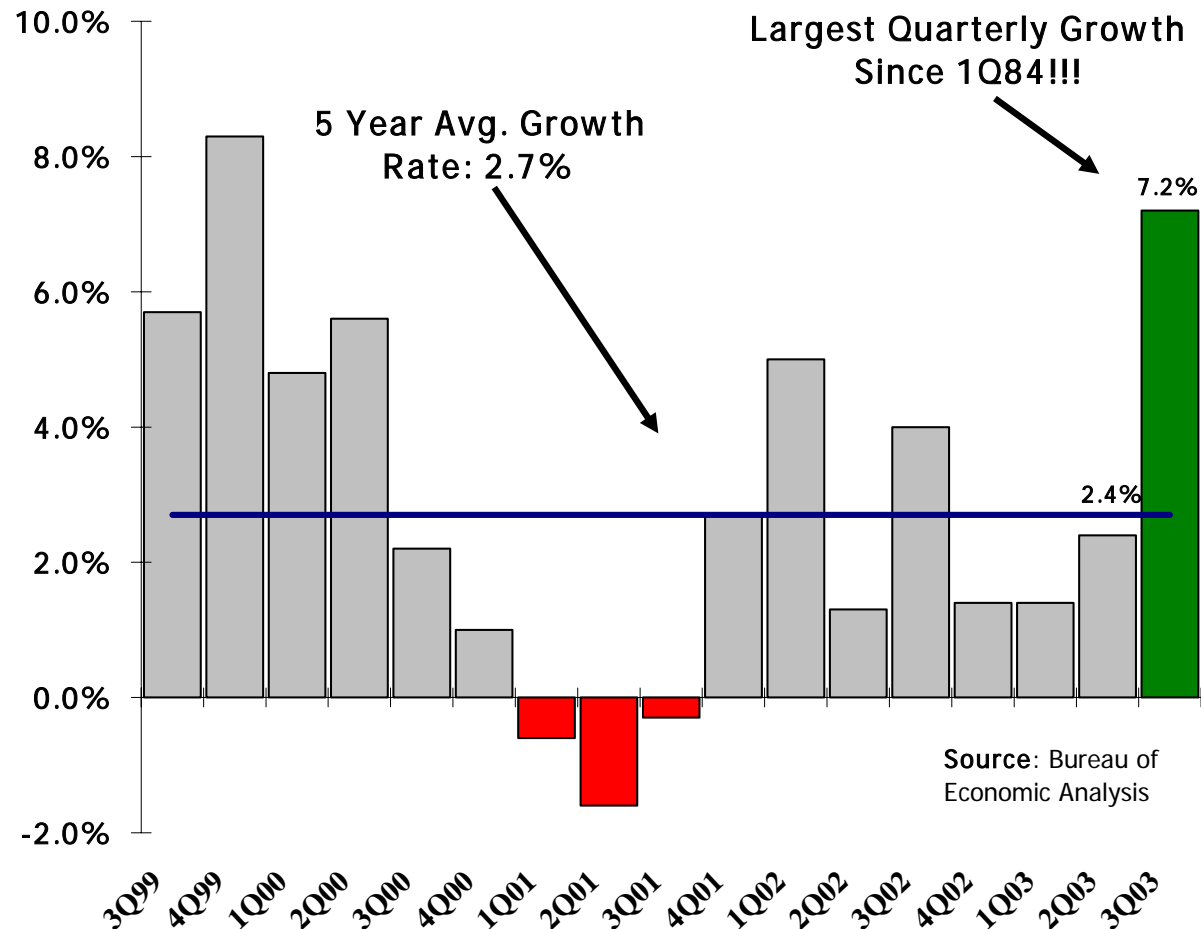


# U.S. Economy Provides the Clearest Signs That Better Times Are Ahead

- Economic growth, spurred by an ease in monetary policy, government spending, and tax cuts, improved significantly during the third quarter. The preliminary estimate of economic growth in the third quarter was 7.2%, the fastest since the first quarter of 1984.
- The improved economic growth has not translated into large job gains or business spending. The unemployment rate fell to 6.1% in September as employers in most sectors added jobs for the first time in eight months.
- Mortgage refinancings and tax cuts kept consumer spending strong during the quarter. Some store sales rose 5.9% in September, the best in 18 months. Consumer confidence fell in September to its lowest level since March amid job market concerns.
- Housing activity remained strong despite an increase in mortgage rates. Existing-home sales reached a record high in August.

# Gross Domestic Product Growth Soars to Levels Not Seen Since 1999

## State of the U.S. Economy: Gross Domestic Product

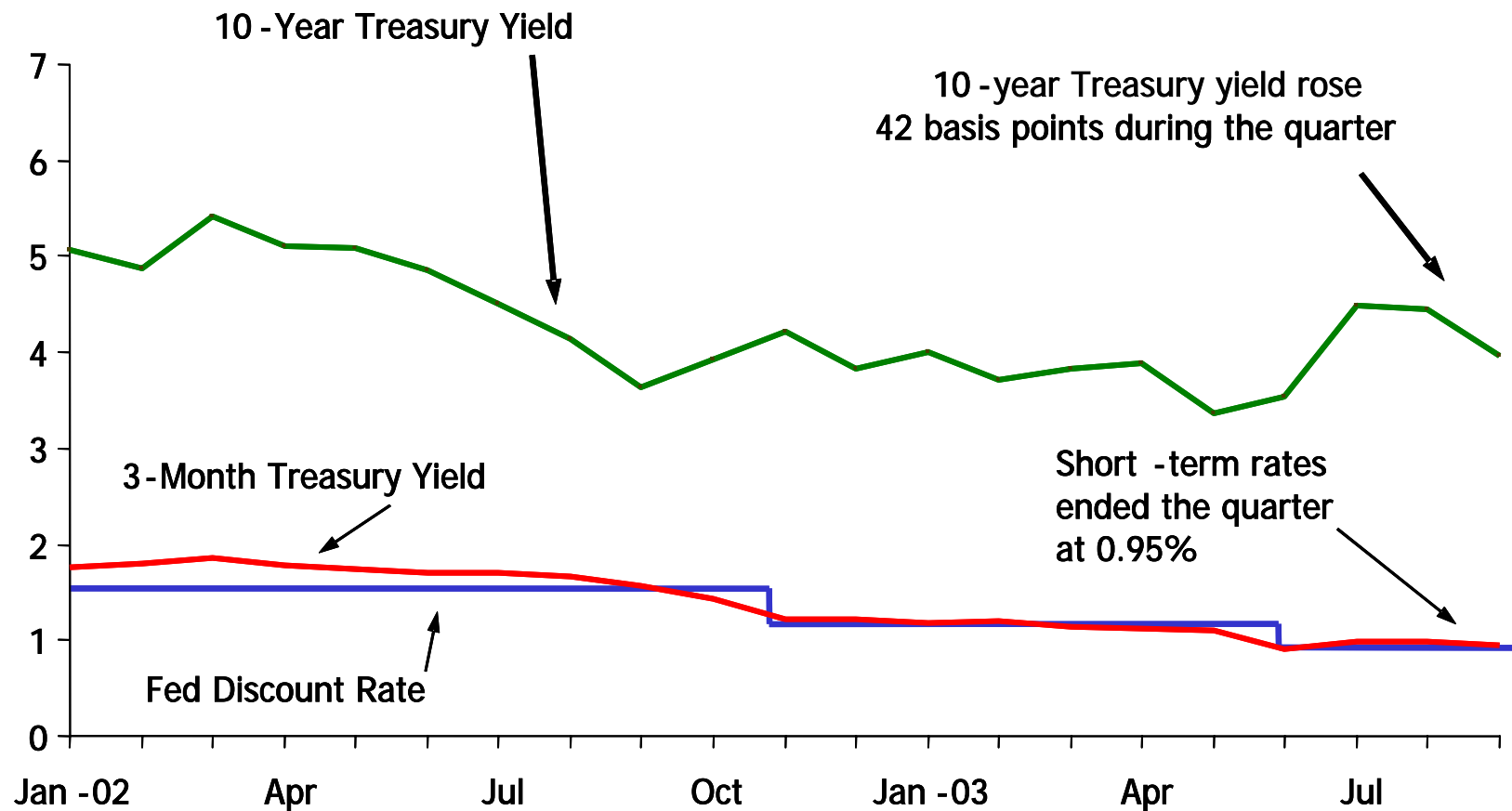


### Key Factors

- Monetary Policy
- Gov't. Spending
- Tax Cuts

# Interest Rates Remain Low

**Wall Street Consensus** – Rates will remain low throughout 2004



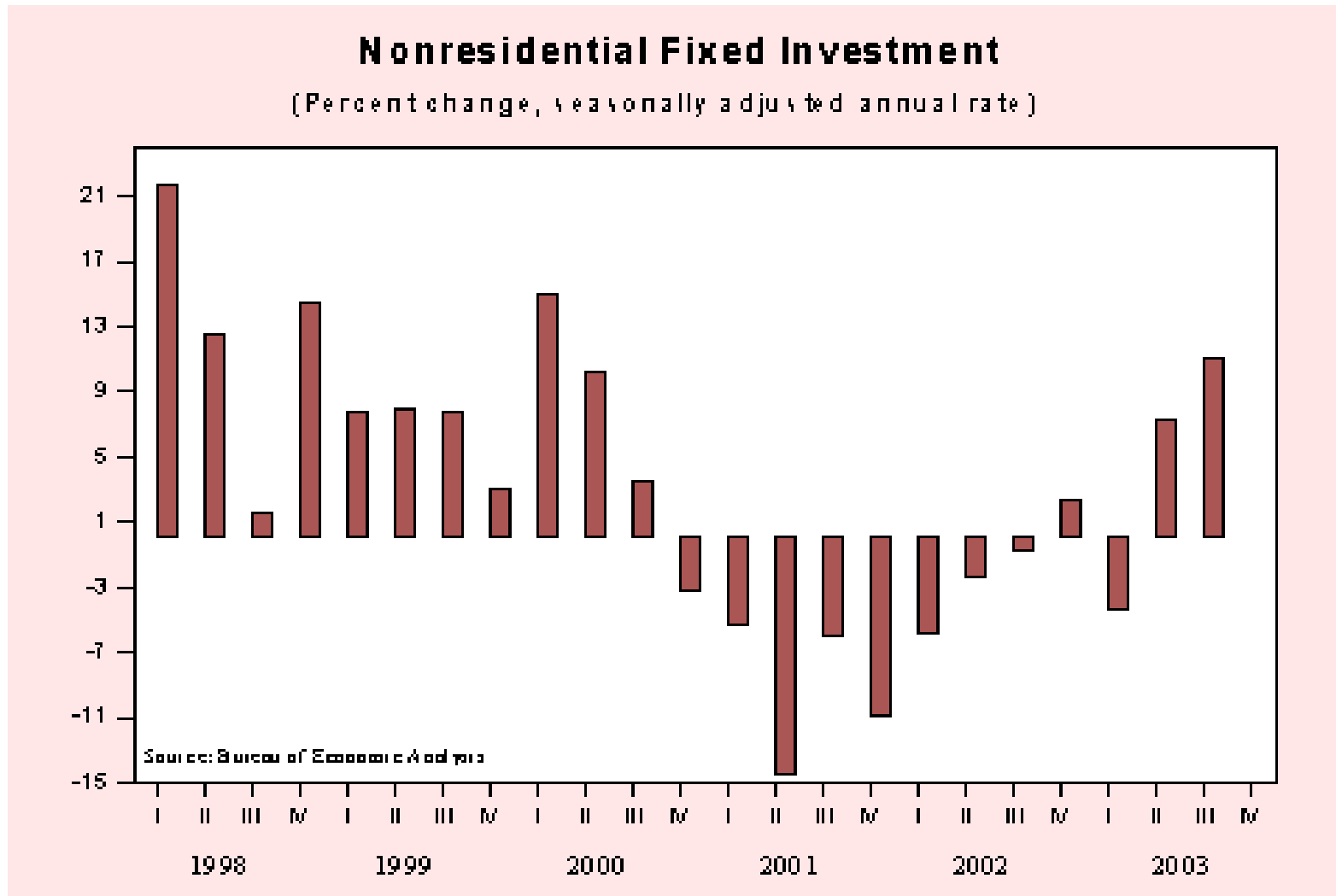
# Unemployment Rate Shows the First Real Decline

Unemployment rate (seasonally adjusted)



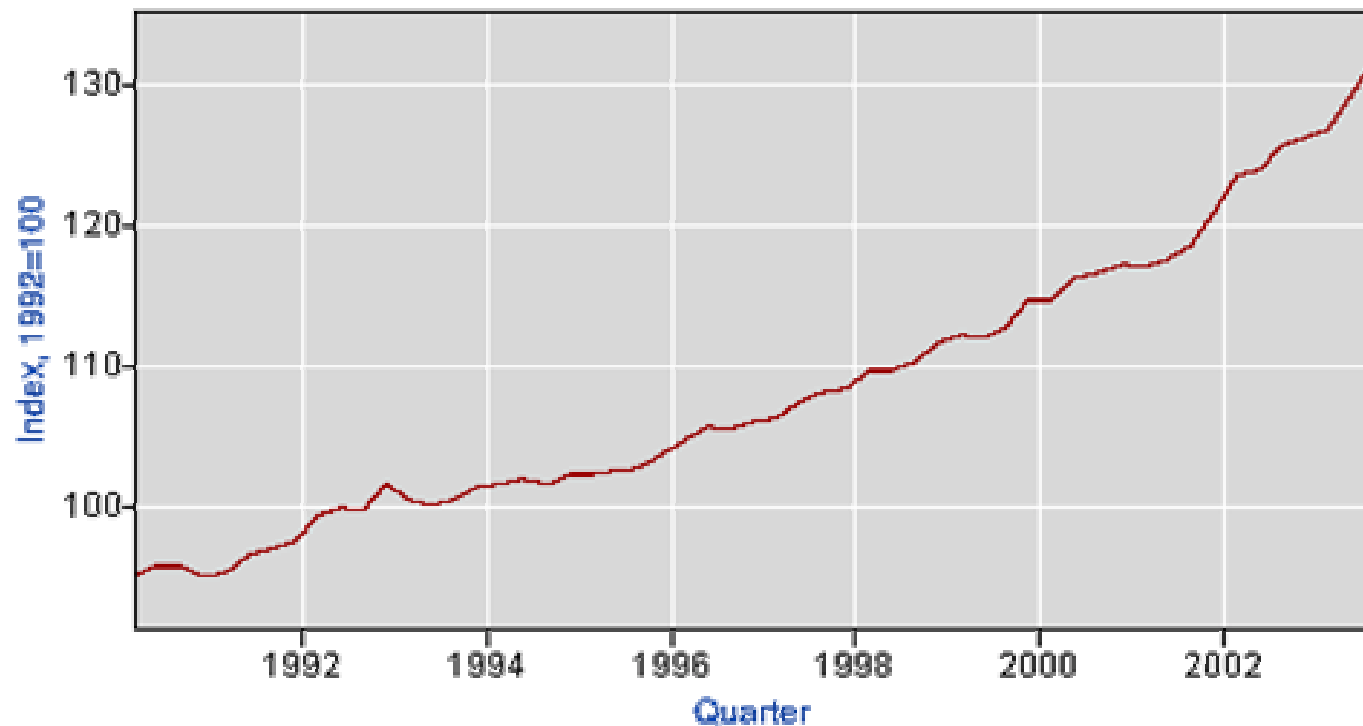
Note: Cross-hatched area represents recession. Vertical line indicates a break in series in January 1994 due to redesign of the survey.

# Business Investment Continues to Show Improvement



# Productivity Increases Accelerate Likely to Lead to Significant Earnings Increases When Final Demand Increases

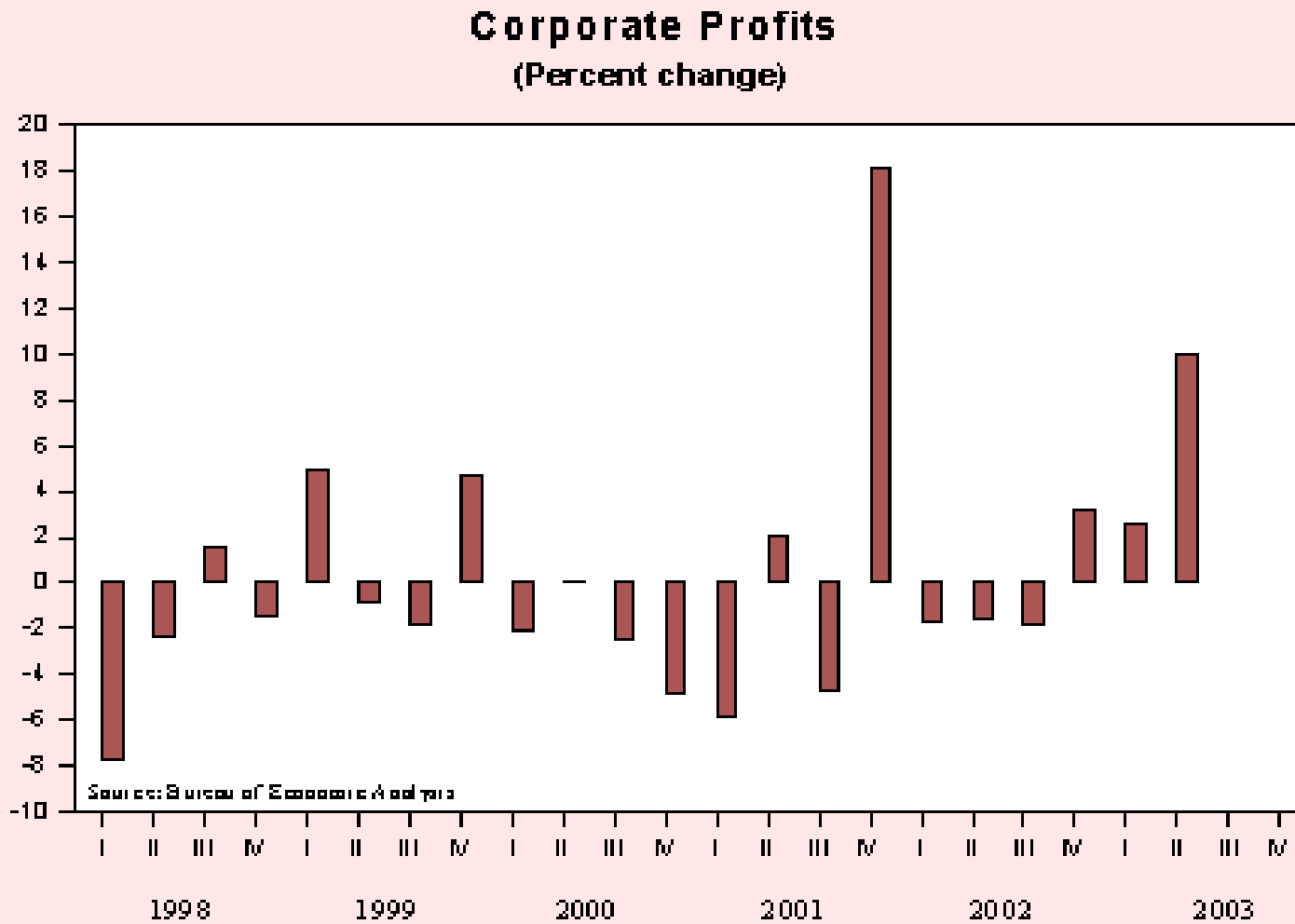
Quarterly productivity in the nonfarm business sector



Note: Labor productivity is output per hour worked



# Corporate Profits Continue Upward Trend





# Potential Negatives Could Impact the Recovery

- Huge budget deficits
  - Reduction in tax receipts
  - Military and homeland defense spending
- Very negative balance of trade
  - Even with a recent 9% increase in exports, we still have a negative ratio of exports to imports
  - Despite declines in the value of the dollar
    - Particularly with China, whose currency is linked to the dollar
    - Amazing statistic: 1% of the GDP of China goes to Walmart
- Individuals are up to their necks in debt
  - Fed reports that the household debt-service ratio is higher than the previous peak in the 1980s

# Impact of Mutual Fund Scandals

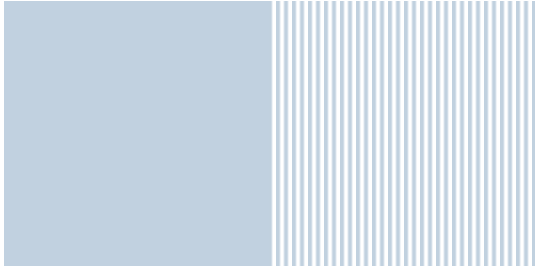
## Overview

- Mutual funds are a huge factor both in the securities markets and in household savings
  - Vehicles for 401(k), 403(b), and 457 plans
- Growth of mutual funds has been enormous
  - 1949: \$2 billion
  - 1990: \$1 trillion
  - 2003: \$7 trillion
- Mutual fund practices have not been looked at for many years
- Mutual funds and their managers have been impacted by ethical lapses similar to those in other areas
  - The dollars involved are enormous

# Impact of Mutual Fund Scandals

## Issues Involved

- Late trading
  - Allowing trades to be entered after the 4:00 pm Eastern time cutoff
  - Impact is that favored investors are thus allowed to trade on known information
- Market timing transactions
  - Failing to enforce prospectus language that prohibits arbitrage in international funds whose markets close before 4:00 pm Eastern time
  - Favored investors are allowed to capture profits at the expense of long-term investors
- Improper use of fee-level breakpoints
- Excessive fee levels
- Compensating brokers for distribution with excessive commissions



# Securities Markets

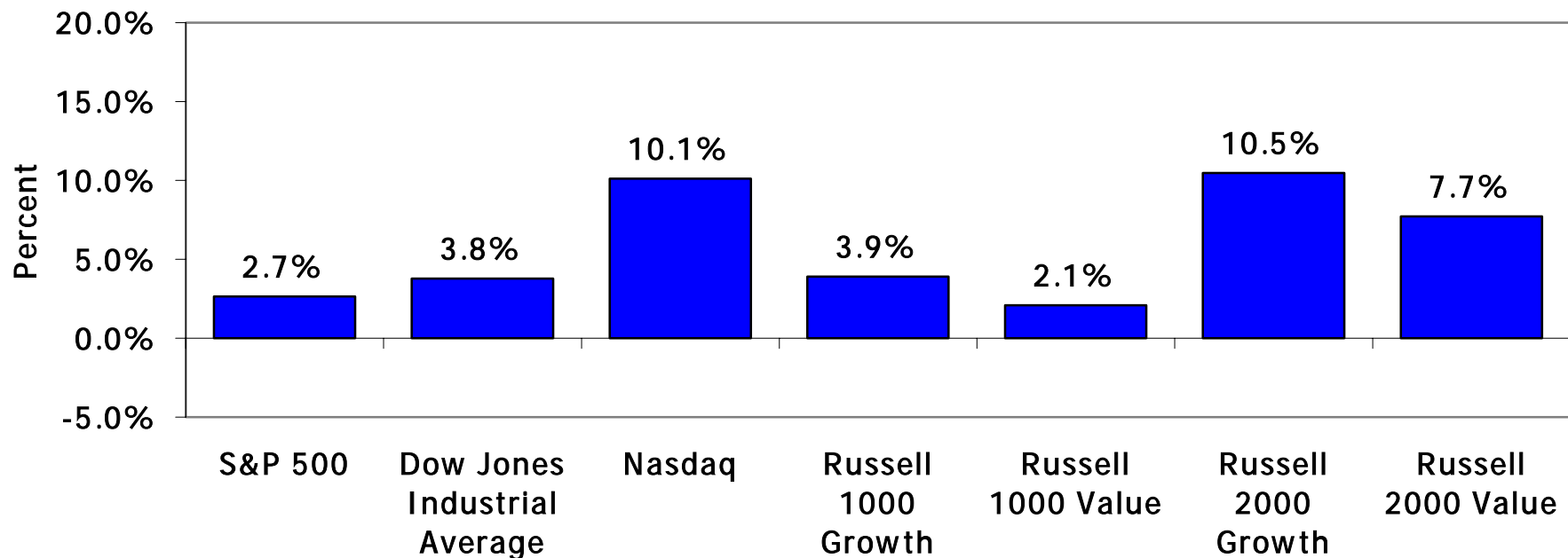
## U.S. Equity Markets Overview

- The stock market continued to advance, though at a slower pace, during the third quarter. The S&P 500 Index was up 2.6%, while the broader Russell 1000 Index gained 3%. In general, cyclical and higher beta stocks continued to lead the market.
- Small cap stocks, as measured by the Russell 2000 Index, outperformed large cap stocks by a significant margin during the quarter, gaining 9.1%. The tech-heavy NASDAQ posted a 10.2% gain.
- Large cap growth stocks outperformed large value stocks during the quarter as the Russell 1000 Growth Index gained 3.9%, while the Russell 1000 Value Index advanced 2.1%.
- Most sectors in the Russell 1000 Index posted positive results. Technology, up 12%, was the top-performing sector. Only health care, other energy, and utilities lost ground.

## U.S. Equity Markets Index Performance

- Stocks continued to advance, although at a slower pace
- Small cap stocks continued to outpace large cap issues
- Growth outperformed value

Third Quarter Performance of U.S. Equity Indices



## Good Returns for Every Segment of the Market Especially Good for Small Cap

- Growth outperformed value for all cap ranges

3Q03 Returns	Value	Core	Growth
<b>Large</b>	<b>2.07</b>	<b>3.00</b>	<b>3.91</b>
<b>Mid</b>	<b>5.93</b>	<b>6.44</b>	<b>7.16</b>
<b>Small</b>	<b>7.73</b>	<b>9.08</b>	<b>10.48</b>
Note: Russell 1000, Mid-Cap, 2000 Indices; Value, Core, Growth			



## One-Year Returns Are Excellent

- All returns are double-digit positive
- Small growth was up almost 50%

1-Year Returns	Value	Core	Growth
<b>Large</b>	<b>24.38</b>	<b>25.14</b>	<b>25.90</b>
<b>Mid</b>	<b>28.30</b>	<b>32.65</b>	<b>38.91</b>
<b>Small</b>	<b>31.66</b>	<b>36.49</b>	<b>41.70</b>
Note: Russell 1000, Mid-Cap, 2000 Indices; Value, Core, Growth			

## Cumulative Three-Year Returns Still Very Negative for Growth

- Large growth has lost more than 46% of value during the period
- Small value stocks increased by more than 37%

Cumulative 3 Yr	Value	Core	Growth
Large	-5.91	-27.92	-46.95
Mid	21.24	-6.28	-43.40
Small	37.02	-2.47	-33.42
Note: Russell 1000, Mid-Cap, 2000 Indices; Value, Core, Growth			

## Three-Year Results Are Showing Improvement

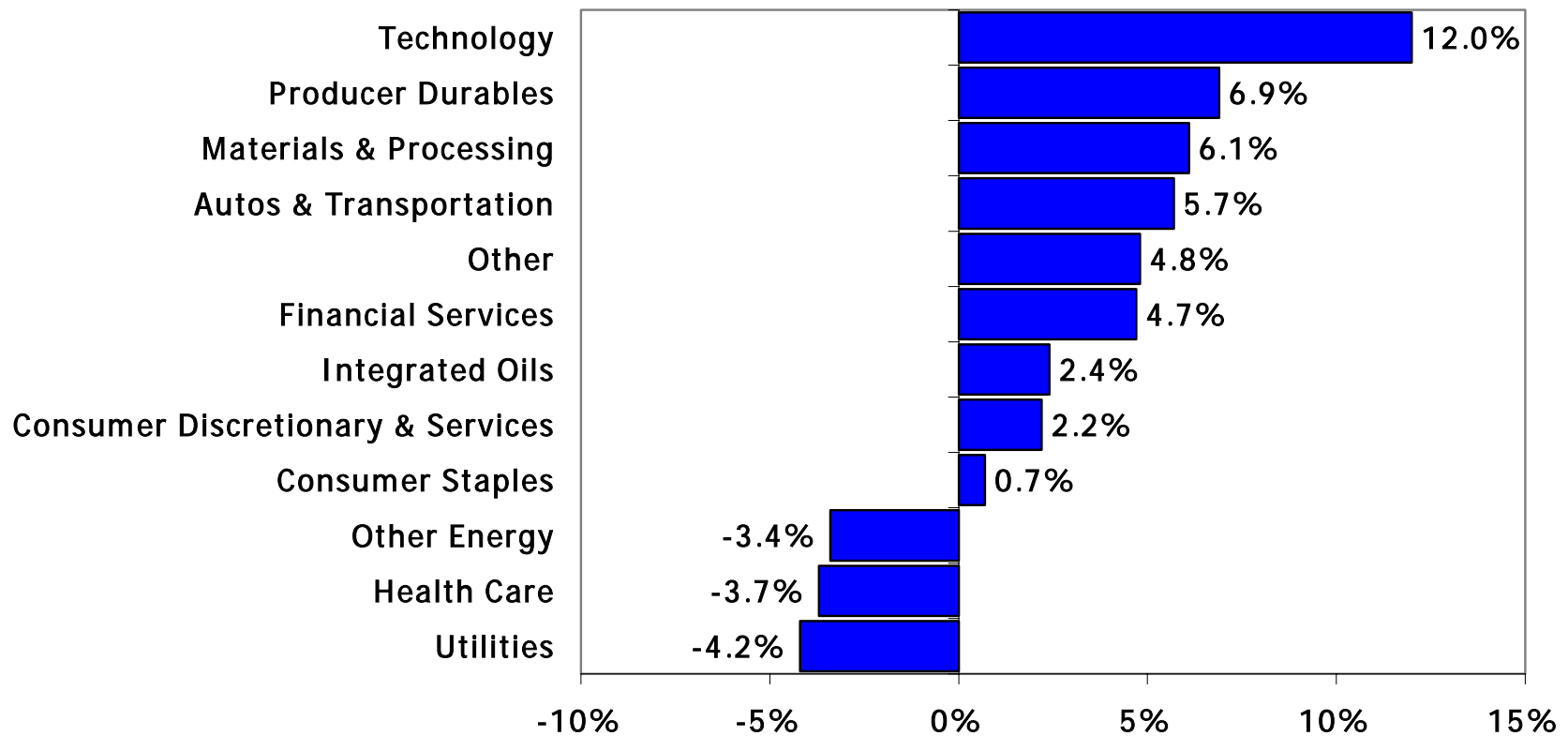
- Returns positive only for Mid/Small Value
- Growth returns for all cap ranges are have improved from last quarter

3 Year Returns	Value	Core	Growth
Large	-2.01	-10.34	-19.05
Mid	6.63	-2.14	-17.28
Small	11.07	-0.83	-12.68
Note: Russell 1000, Mid-Cap, 2000 Indices; Value, Core, Growth			

# U.S. Equity Markets Sector Returns

- Technology produced double-digit returns

Third Quarter Sector Performance - Russell 1000 Index



# U.S. Equity Markets

## Top Positive and Negative Contributors

- Technology stocks are among the strongest
- Pharmaceutical companies are very weak

### 10 Largest Positive Contributors

Stock	Return (%)	End of Quarter Weight	Rank
INTEL CORP	32.34%	1.95%	7
MICROSOFT CORP	8.42%	3.26%	1
CISCO SYS INC	16.68%	1.49%	11
CITIGROUP INC	7.15%	2.55%	6
GENERAL ELEC CO	4.60%	3.25%	2
IBM	7.26%	1.66%	8
WAL MART STORES INC	4.06%	2.66%	3
TEXAS INSTRS INC	29.66%	0.43%	51
MORGAN STANLEY	18.57%	0.60%	38
LOWES COS INC	20.90%	0.44%	48

### 10 Largest Negative Contributors

Stock	Return (%)	End of Quarter Weight	Rank
<b>PFIZER INC</b>	-10.60%	2.58%	5
MERCK & CO INC	-15.79%	1.24%	14
VERIZON COMMUNICATIONS	-16.79%	0.97%	16
LILLY ELI & CO	-13.39%	0.73%	31
<b>SBC COMMUNICATIONS INC</b>	-11.42%	0.81%	23
VIACOM INC	-12.14%	0.73%	30
COCA COLA CO	-6.96%	1.15%	15
<b>JOHNSON &amp; JOHNSON</b>	-3.75%	1.60%	10
HEWLETT PACKARD CO	-8.73%	0.64%	34
BELLSOUTH CORP	-10.21%	0.48%	44

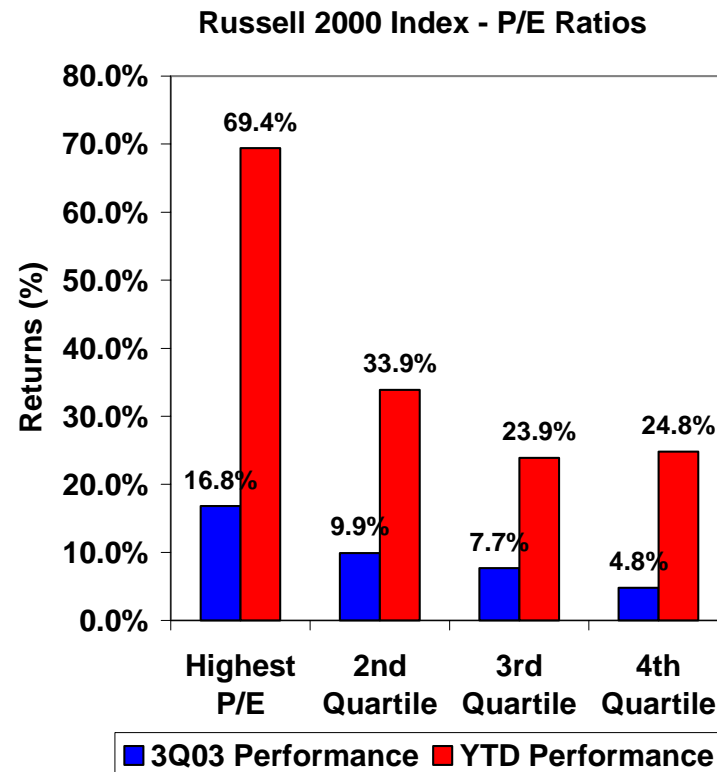
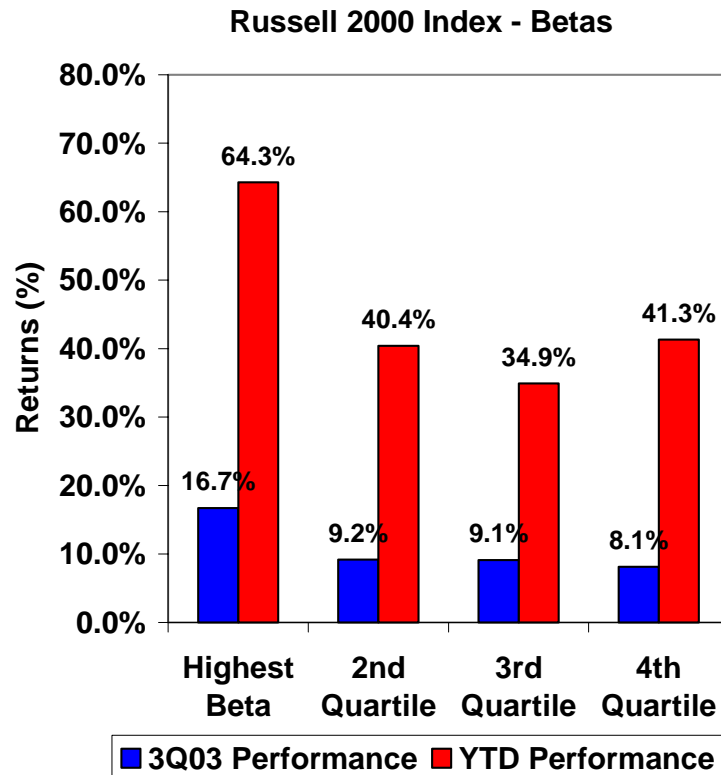
**Note:** Stocks in **blue** changed from one list to another since the previous quarter.

Stocks in **red** remained on the list of top negative performers since the previous quarter.

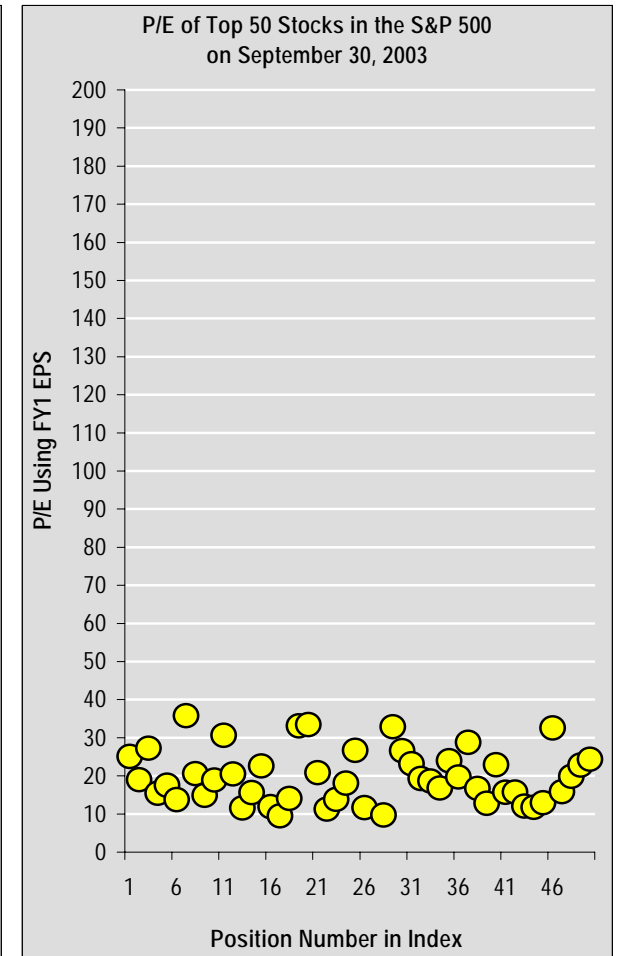
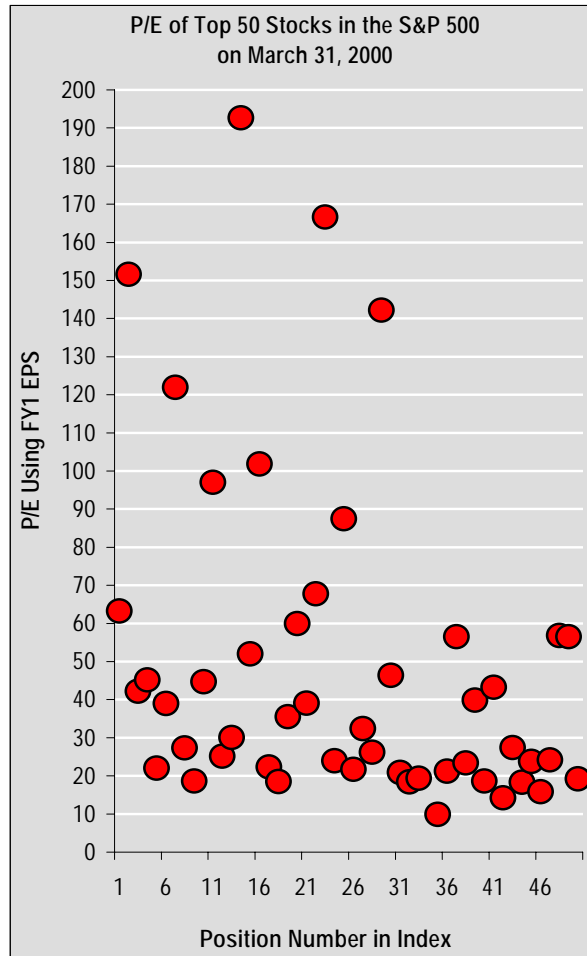
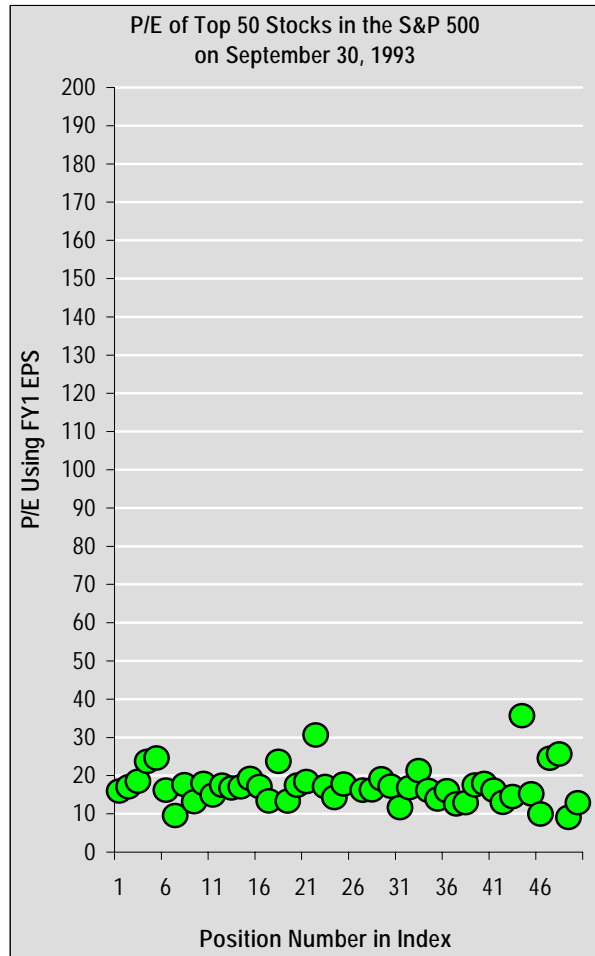
# U.S. Equity Markets

## Small Cap Stocks Are Very Strong

- Russell 2000 Index up 36.5% over the one-year period
- Higher beta/lower quality stocks were the best performers



# Are Stocks Becoming Overvalued?



Source: Dresdner RCM Quantitative Analytics

Data through September 30, 2003

## Non-U.S. Equity Markets Overview

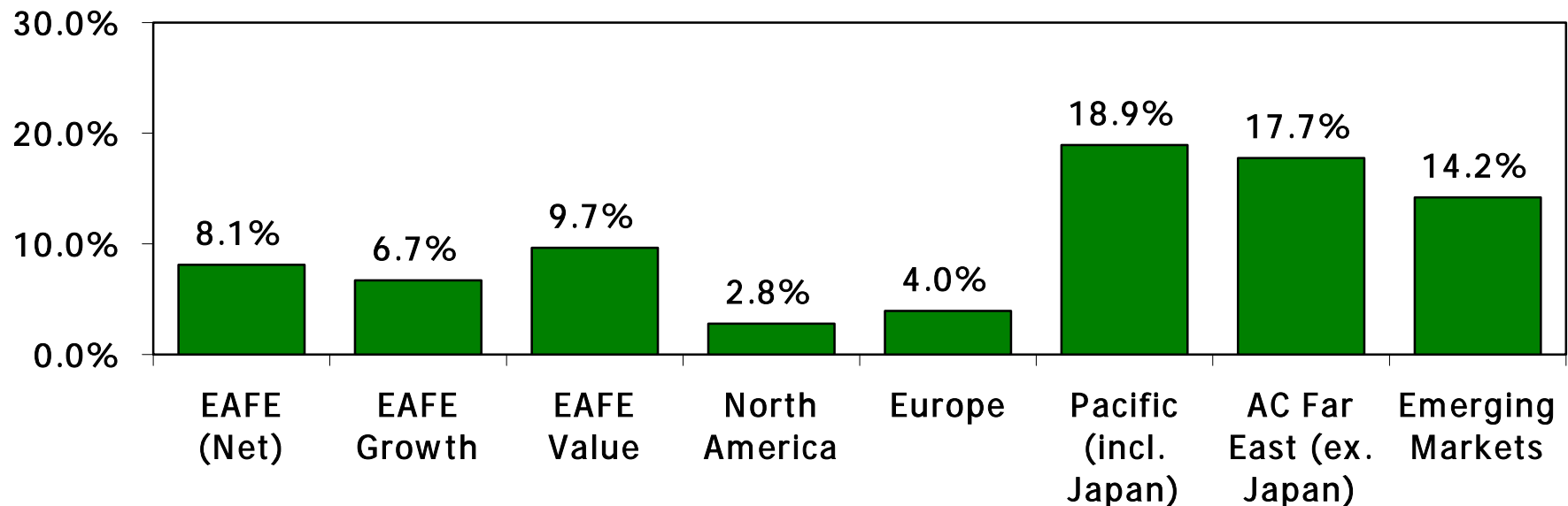
- International equity markets reported strong results during the quarter due in large part to the broad-based depreciation of the dollar. The MSCI EAFE Index gained 8.2%. In local currency terms, the Index was up 5.4%.
- The Pacific region was up 18.9%. Signs of economic growth and continued reform of the banking industry resulted in a 21.9% gain for Japan. The Pacific ex Japan gained 11.1%.
- Europe reported a modest gain of 4% as its major economies continued to struggle with low growth. The Nordic countries, up 6.7%, were the top performers within the region, led by Sweden, which gained 11.9%.
- Emerging markets, up 14.2%, posted double-digit gains for the second consecutive quarter. Emerging Asia was the top-performing region, gaining 15.8%.



## Non-U.S. Equity Markets

- MSCI EAFE Index outperformed S&P 500 Index
- Much of the gain can be attributed to the decline of the U.S. dollar
- Pacific markets boosted by performance of Japan

Third Quarter: Non-US Equity Regional Performance



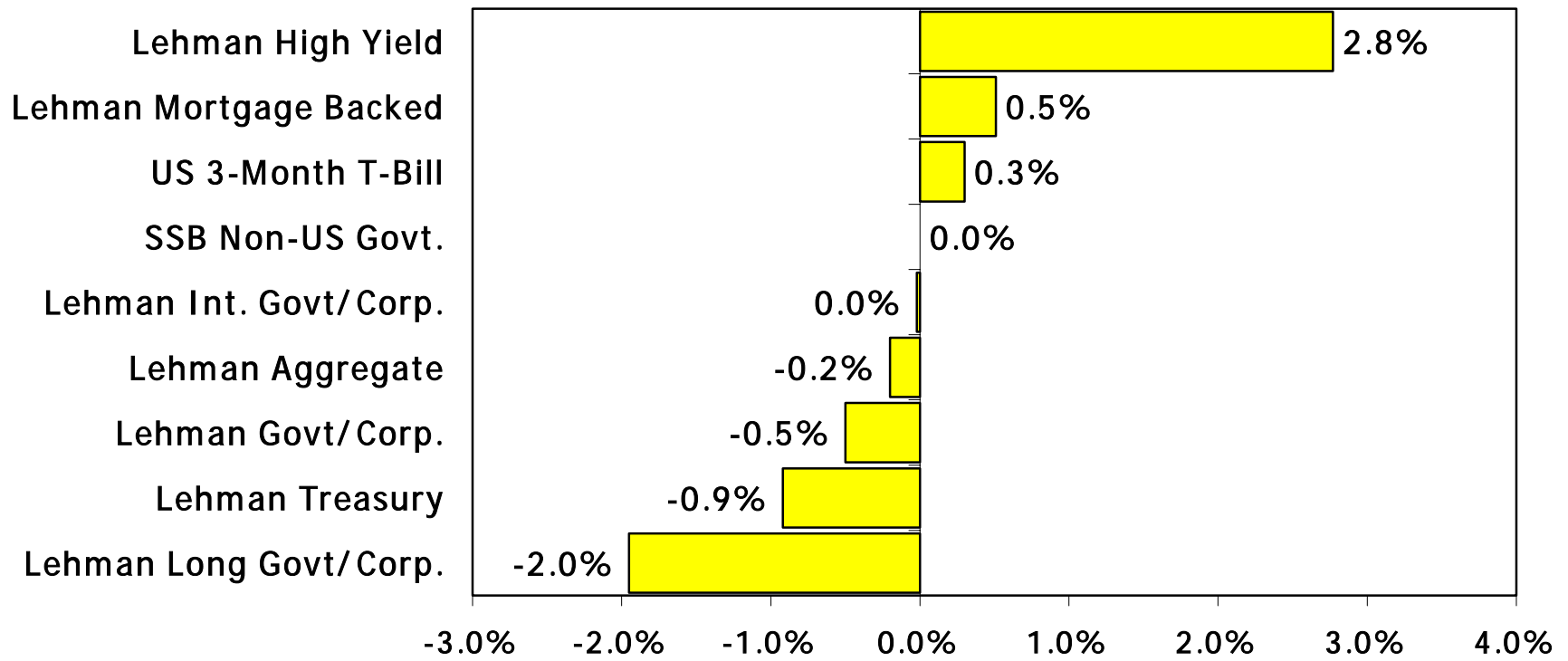
# Fixed Income Markets Overview

- The investment-grade bond market was pummeled in July following a sharp rise in yields. Bonds regained some ground in September as yields drifted lower, but ended the quarter down. The Lehman Brothers Aggregate Bond Index fell 0.1%, while the Government/Credit Index lost 0.5%.
  - Credit issues fared slightly better than Treasuries, and losses were less severe for shorter-term issues than for long-term maturity issues. Overall, yields on Treasuries and credit issues rose 25 and 20 basis points, respectively.
  - The Lehman Brothers Treasury Index fell 0.9% during the quarter.
  - The credit market posted the weakest results since the first quarter of 2002 as the Lehman Brothers Credit Index edged down 0.1%. In general, high-quality bonds underperformed lower quality issues.

# Fixed Income Markets

- LB Aggregate fell by 0.2% after yields increased significantly in July
- High yield bonds continued to gain ground

Third Quarter: Fixed Income Sector Performance





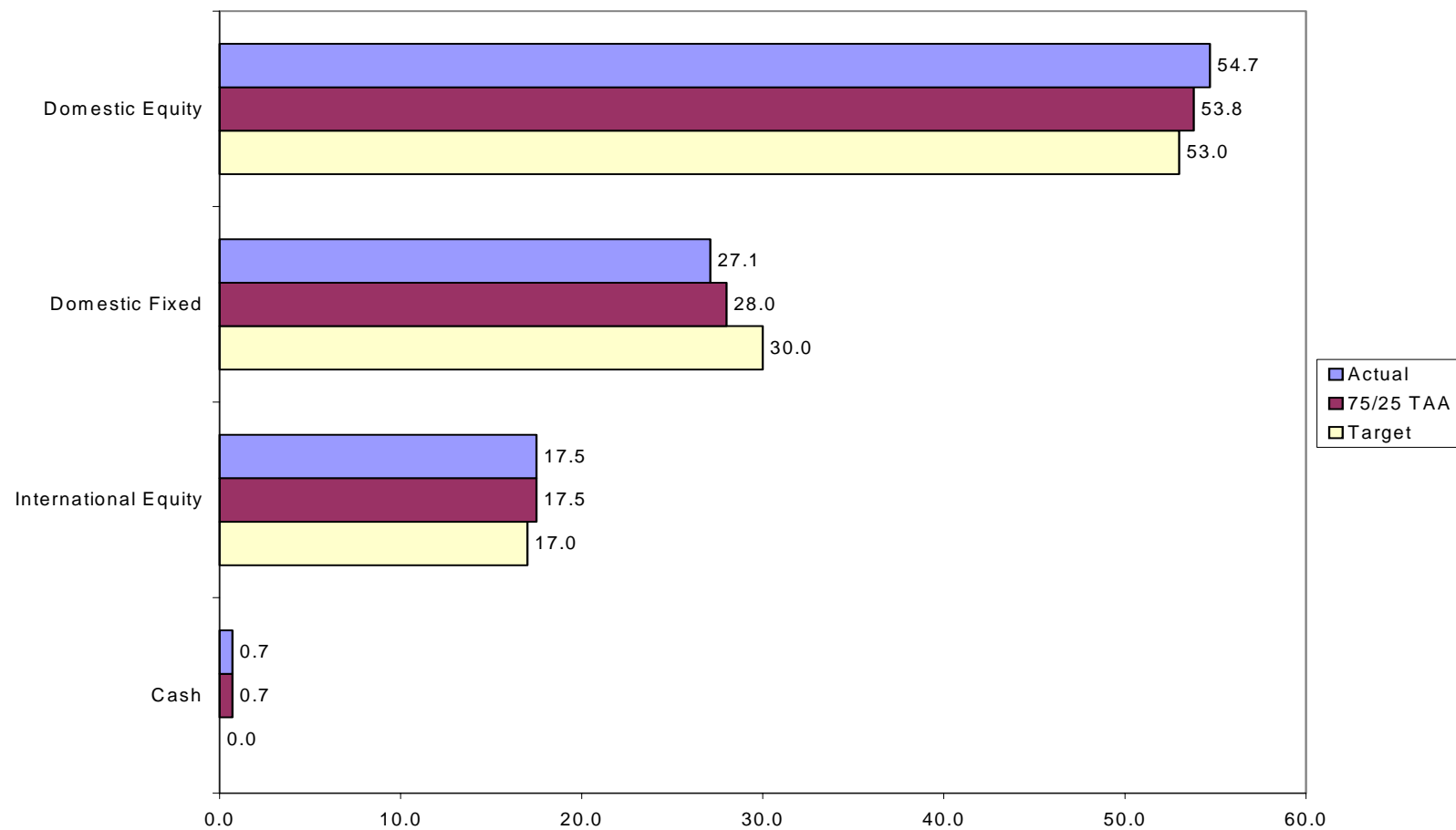
# ASRS Total Fund Performance

# Total Fund Performance For Periods Ending September 30, 2003

	<u>Quarter</u>	<u>1 Year</u>	<u>3 Years</u>	<u>5 Years</u>	<u>Inception</u>
Total Fund	3.5%	20.0%	-3.1%	4.5%	10.8%
Benchmark*	2.8	19.1	-3.9	2.8	8.9
RM Public Funds Median	3.6	18.9	-1.6	5.1	—
Percentile Ranking	60	34	87	77	

\*1/1/89-12/31/91 is 60% S&P 500/40% LB Aggregate,  
1/1/92-12/31/94 is 50% S&P 500/40% LB Aggregate/10% EAFE,  
1/1/95-6/30/97 is 45% S&P 500/40% LB Aggregate/15% EAFE,  
7/1/97-12/31/99 is 50% S&P 500/35% LB Aggregate/15% EAFE, and  
1/1/00-Present is 53% S&P 500/30% LB Aggregate/17% EAFE.

# Total Fund Asset Allocation September 30, 2003



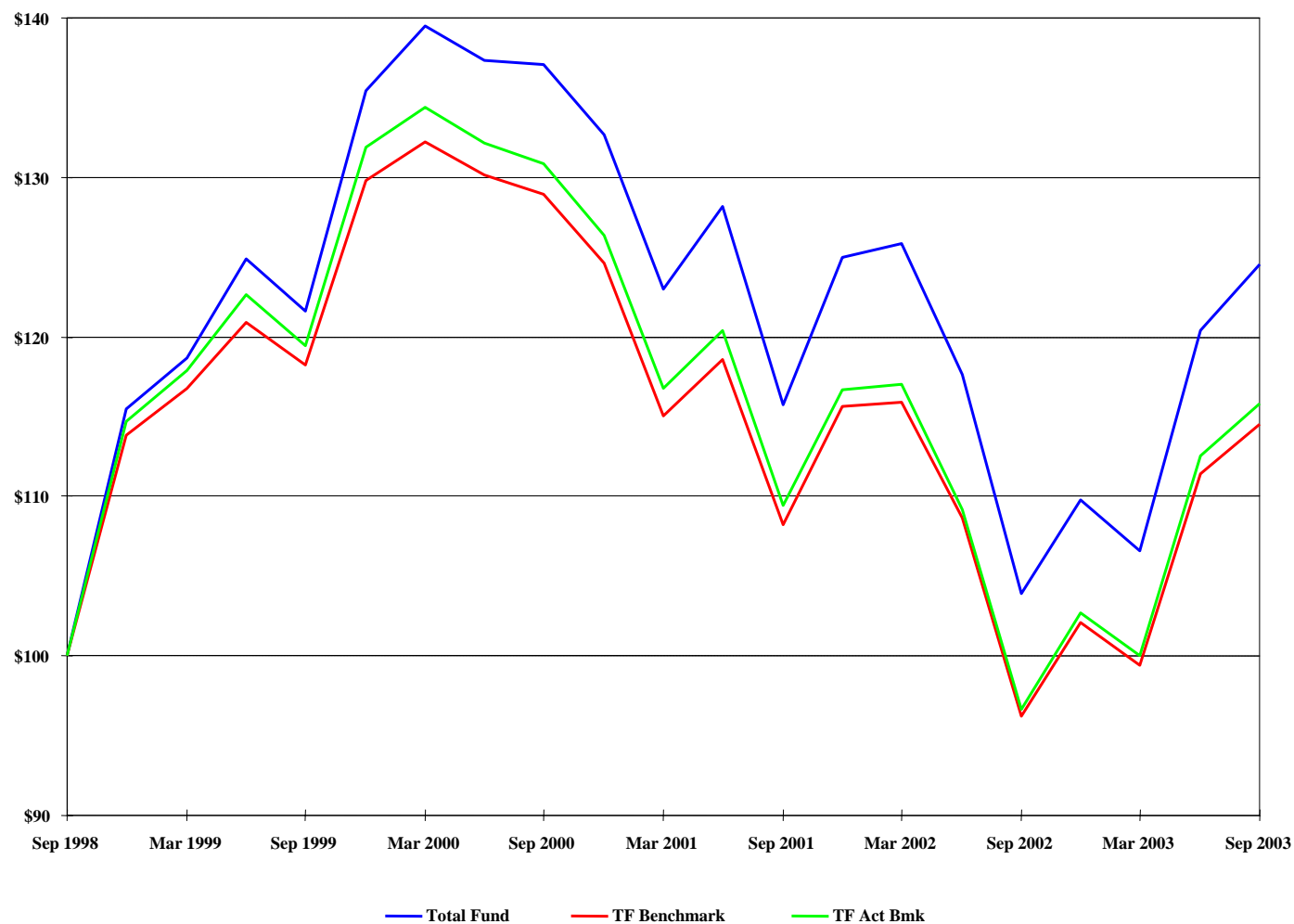
\* Domestic equity includes BGI TAA

# Total Fund Performance For the Year Ending September 30, 2003

- Measured against:
  - Asset Allocation Target of 8.5% Annually
    - Total Fund has outperformed by 11.5%
  - Inflation + 3.0% annually
    - Total Fund has outperformed by 14.7%
  - Actuarial assumption rate of 8.0% annually
    - Total Fund has outperformed by 12.0%

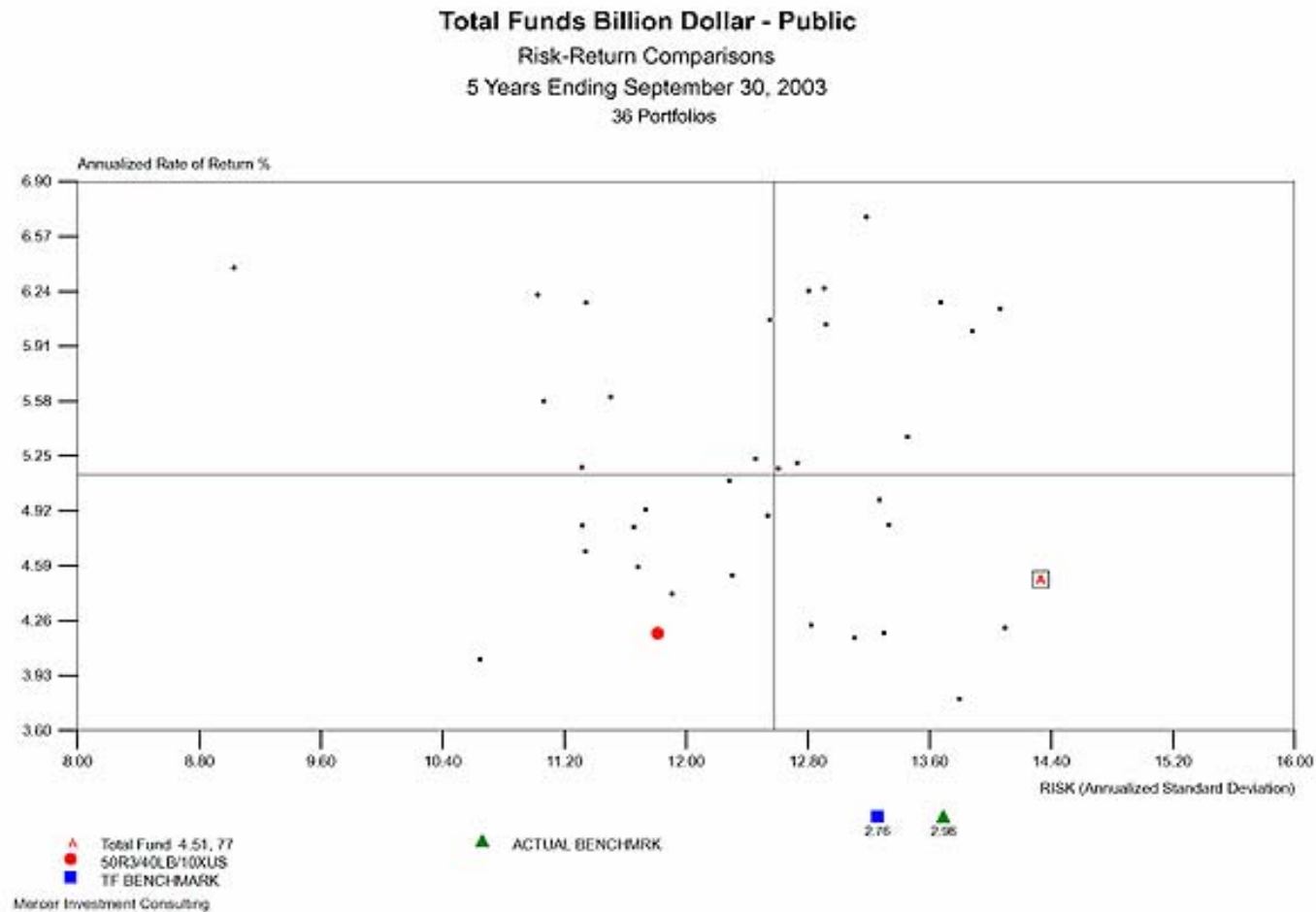
# Total Fund Growth

**Total Fund**  
Value of \$100 invested in US Balanced from Oct 1998 to Sep 2003

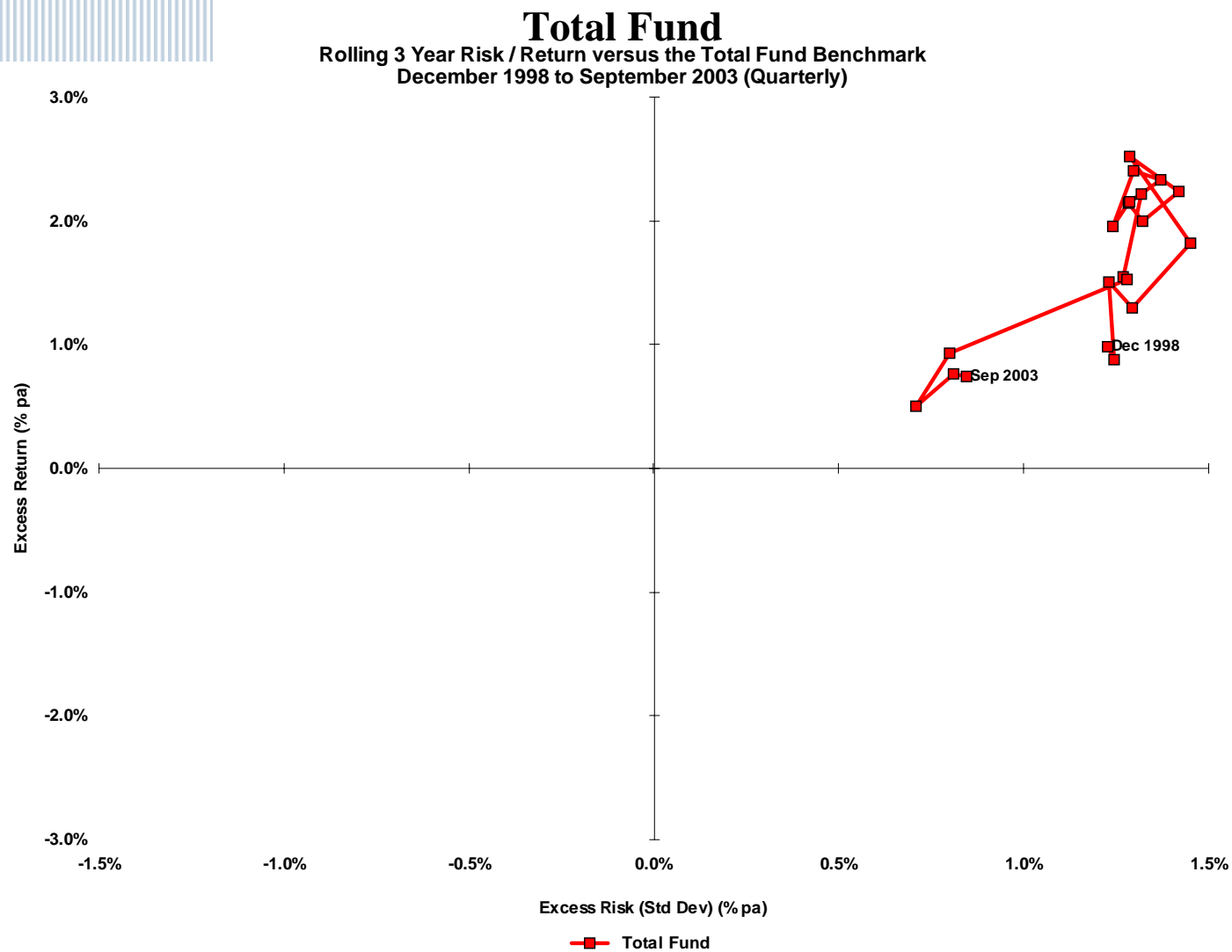




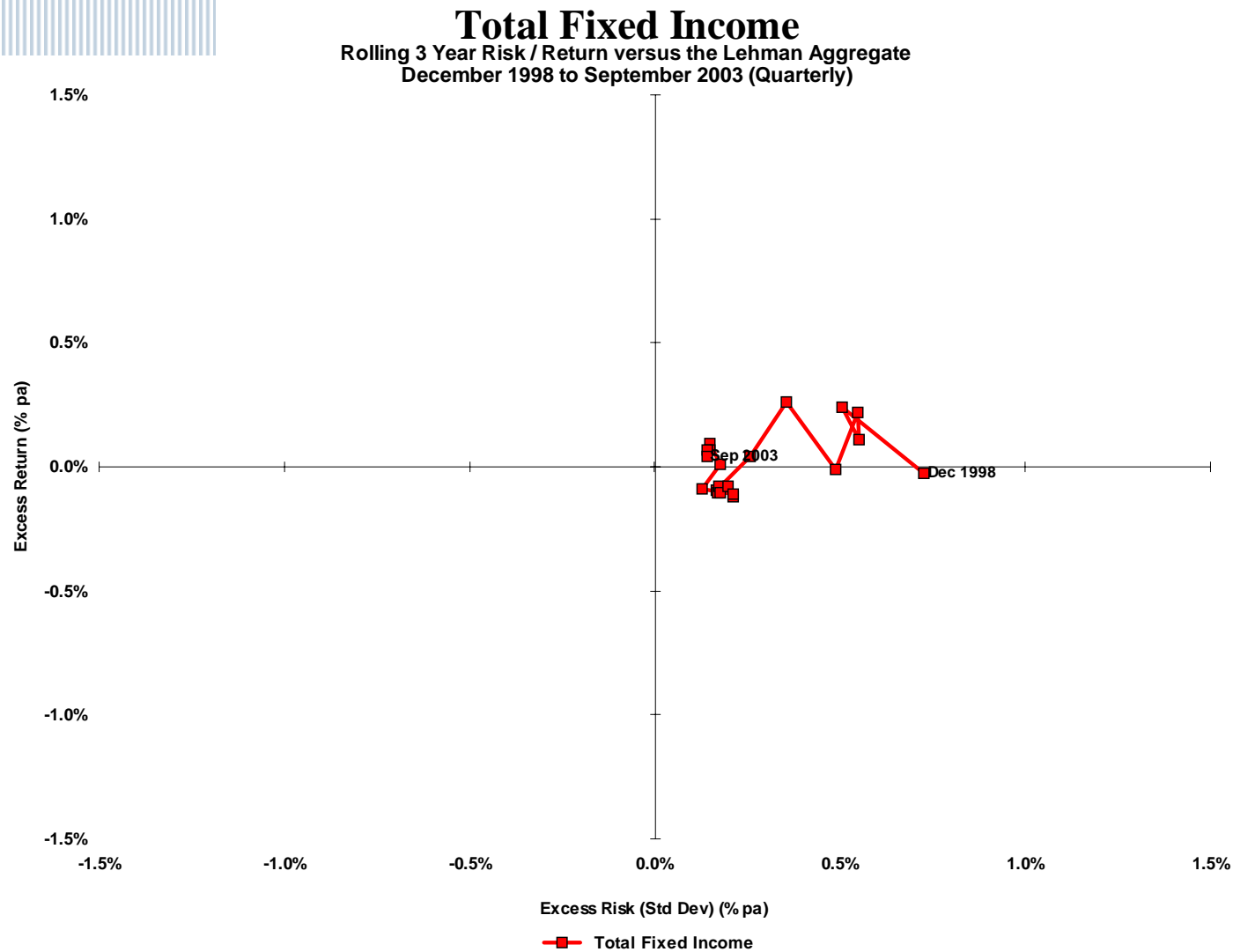
# Total Fund Return/Risk Analysis



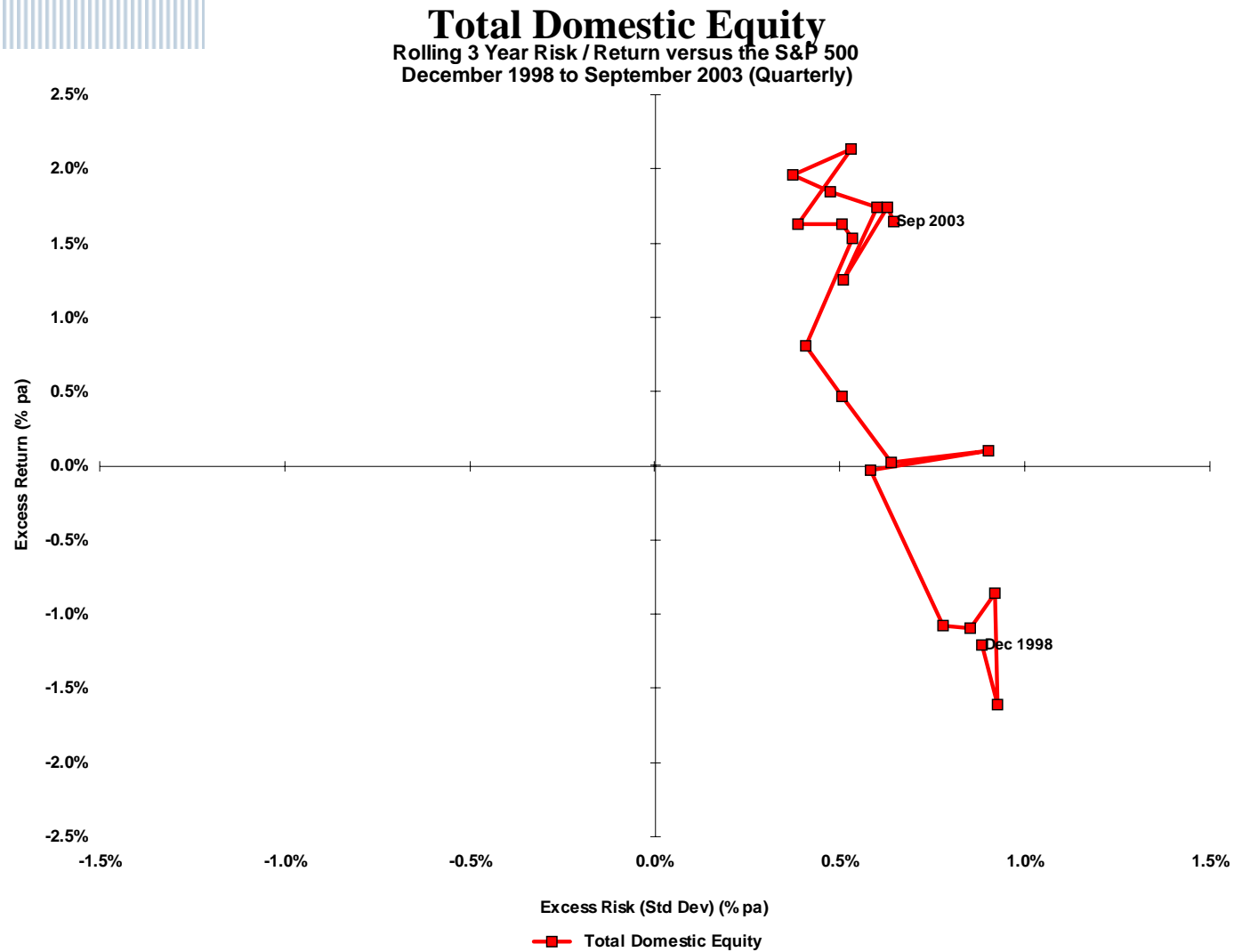
# Risk/Return Analysis



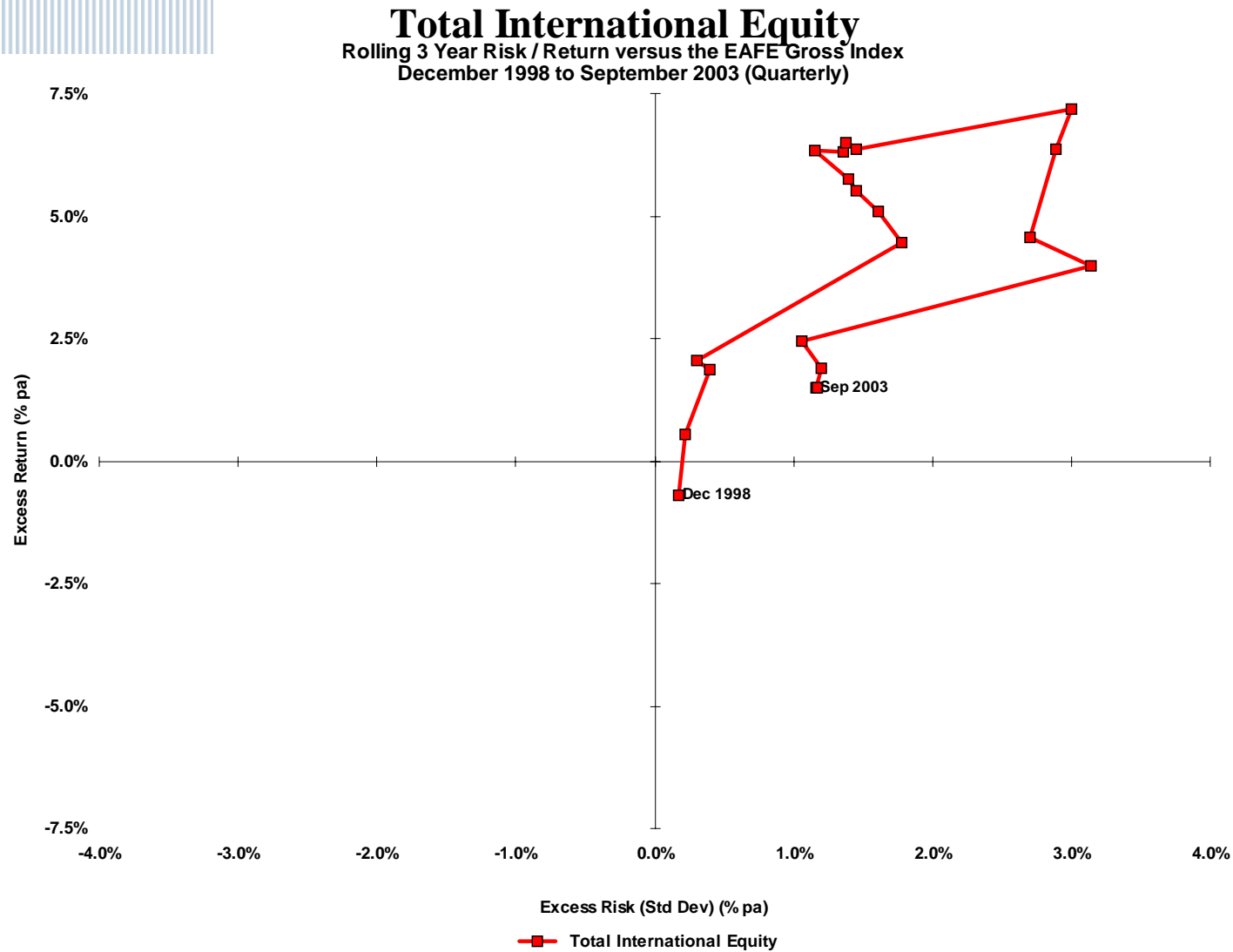
# Return/Risk Analysis



# Return/Risk Analysis



# Return/Risk Analysis



## Performance vs. Benchmarks For the 3 Years Ending September 30, 2003

	<u>Return</u>	Assumed <u>ROR</u>	<u>Std. Dev.</u>	Assumed <u>Std. Dev.</u>
Total Fund	-3.1%	7.4%	15.2%	13.4%
Benchmark	-3.9		14.4	
Domestic Fixed	9.0	4.5	3.8	6.0
LB Aggregate	8.9		3.7	
Domestic Equity	-8.5	8.5	22.5	18.6
S&P 500	-10.1		21.9	
Intl. Equity	-6.8	8.5	23.4	21.9
EAFE	-8.4		22.2	

## Performance vs. Benchmarks For the 5 Years Ending September 30, 2003

	<u>Return</u>	Assumed <u>ROR</u>	<u>Std. Dev.</u>	Assumed <u>Std. Dev.</u>
Total Fund	4.5%	7.4%	14.7%	13.4%
Benchmark	2.8		13.6	
Domestic Fixed	6.6	4.5	3.7	6.0
LB Aggregate	6.6		3.5	
Domestic Equity	2.7	8.5	21.8	18.6
S&P 500	1.0		21.3	
Intl. Equity	5.2	8.5	23.0	21.9
EAFE	0.9		21.5	